

## PATENT COOPERATION TREATY

PCT/EP2004/006957

From the INTERNATIONAL BUREAU

**PCT**

NOTIFICATION OF TRANSMITTAL  
OF COPIES OF TRANSLATION  
OF THE INTERNATIONAL PRELIMINARY REPORT  
ON PATENTABILITY  
(CHAPTER I OR CHAPTER II  
OF THE PATENT COOPERATION TREATY)  
(PCT Rules 44bis.3(c) and 72.2)

To:

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|  |   |
|--|---|
| Date of mailing (day/month/year)<br>26 May 2006 (26.05.2006)               | IMPORTANT NOTIFICATION  |
| Applicant's or agent's file reference<br>03/052 NUT                        |   |
| International application No.<br>PCT/EP2004/006957                         | International filing date (day/month/year)<br>26 June 2004 (26.06.2004) |
| Applicant<br>NUTRINOVA NUTRITION SPECIALTIES & FOOD INGREDIENTS GMBH et al |   |

## 1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

## 2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

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The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

## 3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

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Form PCT/TB/338 (January 2004)

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Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY  
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

|  |   |   |
|--|---|---|
| Applicant's or agent's file reference<br><b>03/052 NUT</b>   | FOR FURTHER ACTION<br>See Form PCT/PEA/416                      |   |
| International application No.<br><b>PCT/EP2004/006957</b>  | International filing date (day/month/year)<br><b>26.06.2004</b> | Priority date (day/month/year)<br><b>03.07.2003</b> |
| International Patent Classification (IPC) or national classification and IPC<br><b>A23L1/236, C07K5/06, C07D291/06</b> |   |   |
| Applicant<br><b>NUTRINOVA NUTRITION SPECIALTIES &amp; FOOD INGREDIENTS GMBH</b>  |   |   |

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 6 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

a. ☒ (sent to the applicant and to the International Bureau) a total of 1 sheets, as follows:

☐ sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) \_\_\_\_\_, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 302 of the Administrative Instructions).

4. This report contains indications relating to the following items:

|                                     |              |   |
|-------------------------------------|--------------|---|
| <input checked="" type="checkbox"/> | Box No. I    | Basis of the report   |
| <input type="checkbox"/>            | Box No. II   | Priority  |
| <input type="checkbox"/>            | Box No. III  | Non establishment of opinion with regard to novelty, inventive step and industrial applicability  |
| <input type="checkbox"/>            | Box No. IV   | Lack of unity of invention  |
| <input checked="" type="checkbox"/> | Box No. V    | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/>            | Box No. VI   | Certain documents cited   |
| <input type="checkbox"/>            | Box No. VII  | Certain defects in the international application  |
| <input type="checkbox"/>            | Box No. VIII | Certain observations on the international application   |

|   |                                   |
|---|-----------------------------------|
| Date of submission of the demand        | Date of completion of this report |
| Name and mailing address of the IPEA/EP | Authorized officer                |
| Facsimile No.                           | Telephone No.                     |

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No

PCT/EP2004/006957

Box No. 1 Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
- ☐ This report is based on translations from the original language into the following language \_\_\_\_\_ which is the language of a translation furnished for the purposes of:
- ☐ international search (Rule 12.3 and 23, I(b))
- ☐ publication of the international application (Rule 12.4)
- ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report):*
- ☐ the international application as originally filed/furnished
- ☒ the description:
- pages 1-10 as originally filed/furnished
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- pages\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☒ the claims:
- nos. 1-6 (in part) as originally filed/furnished
- nos. " \_\_\_\_\_ as amended (together with any statement) under Article 19
- nos. " 6 (in part)-14 received by this Authority on 03.05.2005 with telexfax
- nos. " \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ the drawings:
- sheets \_\_\_\_\_ as originally filed/furnished
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- sheets\* \_\_\_\_\_ received by this Authority on \_\_\_\_\_
- ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, nos. \_\_\_\_\_
- ☐ the drawings, sheets/figs \_\_\_\_\_
- ☐ the sequence listing (specify): \_\_\_\_\_
- ☐ any table(s) related to sequence listing (specify): \_\_\_\_\_

\* If item 4 applies, some or all of those sheets may be marked "superseded."

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006957

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

## 1. Statement

|                               |        |      |     |
|-------------------------------|--------|------|-----|
| Novelty (N)                   | Claims | 1-14 | YES |
|                               | Claims |      | NO  |
| Inventive step (IS)           | Claims | 1-14 | YES |
|                               | Claims |      | NO  |
| Industrial applicability (IA) | Claims | 1-14 | YES |
|                               | Claims |      | NO  |

## 2. Citations and explanations (Rule 70.7)

1. The present report refers to the following documents:

- D1: WO 99/12954 A (NUTRASWEET CO) 18 March 1999 (1999-03-18)
- D2: US-A-5 827 562 (VAN SCOLINGEN JACOB ET AL) 27 October 1998 (1998-10-27)
- D3: ES-A-8 604 766 (PALOMO COLL ALBERTO) 1 August 1986 (1986-08-01)
- D4: US 2001/006694 A1 (FRY JOHN ET AL) 5 July 2001 (2001-07-05)
- D5: HOEK A C ET AL: "IMPROVED POWDER MIX QUALITY WITH TWINSWEET" WORLD REVIEW OF NUTRITION AND DIETETICS, KARGER, MUENCHEN, DE, Vol. 85, 1999, pages 133-139, XP000957747 ISSN: 0084-2230
- D6: EP-A-1 219 182 (NUTRINOVA NUTRITION SPECIALTIE) 3 July 2002 (2002-07-03)
- D7: EP-A-0 155 634 (HOECHST AG) 25 September 1985 (1985-09-25)
- D8: WO 99/64444 A (GROENEVELD CHRISTIAAN; HOLLAND SWEETENER CO (NL)) 16 December 1999 (1999-12-16).

Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability:  
citations and explanations supporting such statement

The relevant passages are those cited in the search report.

2. The subject matter of the present application relates to a synthesis of a salt from aspartame and acesulfame-H (claims 1-11), a salt obtained from aspartame and acesulfame-H (claims 12 and 13) and the use thereof (claim 14).

3. Synthesis (claims 1-11)

- 3.1 Novelty

Document D1 discloses the reaction of neotame with acesulfame-H in different solvents not disclosed in claim 1 (page 6, lines 5-19).

Documents D2 and D4, D6 and D8 disclose the reaction of acesulfame-K in an acid medium with aspartame/aspartame derivatives.

In document 3 acesulfame-H is converted into MeOH.

Document D7 describes the synthesis of acesulfame-H into the claimed LM, the conversion with the base into acesulfame-K then being carried out in an aqueous phase.

Consequently, the method according to claims 1-11 is not disclosed. Claims 1-11 therefore satisfy the requirements of PCT Article 33(2).

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/006957

Box No. V

Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;  
citations and explanations supporting such statement

## 3.2 Inventive step

Document D6 expressly refers to the synthesis according to document D7 to disclose acesulfame-H which is then converted in an aqueous phase with basic AS. A combination with documents D8 or D7 with document D1 would likewise not lead to the claimed synthesis, whose aim is the production of a stable sweetener salt. Claims 1-11 meet the requirements of PCT Article 33(3).

## 4. Salt (claims 12 and 13)

## 4.1 Novelty

Document D2 contains precise data on the stability of the salt which demonstrate that the salt produced according to document D2 has a DKP content of 0.01 % or more even before heating. This content will remain after heating. The compounds disclosed in document D2 therefore present a breakdown rate far exceeding the breakdown of less than 0.005% DKP after heating, as claimed by the invention. Consequently, the subject matter of claims 12 and 13 can be considered novel and hence claims 12 and 13 satisfy the requirements of PCT Article 33(2).

## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/EP2004/005957

| Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability:<br>citations and explanations supporting such statement   |
|-----------|--|
| 4.2       | <p>Inventive step</p> <p>The claimed invention makes available an AFMHAc which is more stable than that of the prior art document D2, owing to the lower breakdown of the product during heating. Consequently, claims 12 and 13 meet the requirements of PCT Article 33(3).</p> |
| 5.        | <p>Use (claim 14)</p> <p>Point 4 applies analogously to the use of the salt in food, beverages, pharmaceuticals and cosmetics. The requirements of PCT Article 33(2) and (3) are satisfied.</p>  |
| 6.        | <p>The subject matter of claims 1-14 meets the requirements of PCT Article 33(4).</p>  |